Drawing of cacti by Sandy Zawacki, 1996

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SPINAL COLUMN

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Succulent Trees by Dan Mahr

WEBINAR HOSTED BY CSSA

Dan's first presentation in 2021 began with a characterization of succulent trees and an overview of the important families and genera. This presentation will focus on general growing practices, especially as container plants, and conclude with a showing of less-ordinary species that have substantial horticultural potential, but are possibly under-appreciated, and therefore, under-utilized.

REGISTER AT THIS LINK:
https://us02web.zoom.us/webinar/register/WN_HfIuY8GQSsWRJGocEycpsg

JANUARY 8, 2022 10:00 AM IN PACIFIC TIME

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President's Message

KATIE WHITEHOUSE

Hello, friends!! It was so nice to see the folks who made it to our December meeting via zoom. Although we were all disappointed to miss the potluck, we had a great discussion and a show and tell session of winter-growing succulents. In case you missed out, the link to the recorded session can be found here: (video and link below).
Video link: https://youtu.be/HX5Vh-1SgmM

One of my favorite winter growers from my collection: Phyllobolus resurgens

Traditionally, we take a break from meeting in January and February, but this year we decided to keep the MCSS fun going throughout the dreary winter. That said...

January Meeting

- January 9 at1pm
- Diverse Diversions: Growing Succulents and Cacti as Houseplants
- **THIS MEETING WILL BE HELD VIA ZOOM**
  https://a2schools.zoom.us/j/94586176979
  Meeting ID: 945 8617 6979
  One tap mobile
  +13126266799,,94586176979# US (Chicago)
  +16468769923,,94586176979# US (New York)

DISCUSSION TOPIC: What's your oldest cactus or succulent?

This topic came up at our last meeting, and we thought it would be fun to put a call out to members to share their pics and stories of their oldest plant, and how they came to be plant parents, which we can feature as a semi-regular column in the newsletter! Here are my offerings!

The first is a jade (Crassula ovata) that I grew from a 3" cutting from my mother's plant, which I took with me when I left home to attend college in 1993. My mother's plant came from a cutting from my grandmother's plant...so not sure how old the original specimen would be! This one has been divided several times, and has been with me for 28 years.

Next are these Madagascar Palms (Pachypodium lamerei). The lone specimen in the pot on the right I grew from a 6" baby purchased at the much-missed Saguaro Rare Plant Nursery (when it was still open in the Whitmore Lake area, back in 1995). It has been with me for a little over 25 years, and has grown from 6 inches to 6 feet (actually about 7' including the pot). The even taller specimens on the left were given into my care about 20 years ago when a friend was moving and couldn't take them with her. Not sure how old they were when I received them...they were about 4' tall at the time.

These are not the first plants I ever cared for, but rather, the ones that have survived the longest in my care… Tell us about your old plants!! Send pics and a description or story to Marla, our newsletter editor, at: MCSSEditor@gmail.com

Species Catalogue

PHOTOS AND CAPTIONS FROM BRIAN RILEY VIA OUR CLUB'S FACEBOOK PAGE

Adromischus bicolor. Two different clones being propagated from leaf cuttings provided by Steven Hammer. (December 2021)

Titanopsis calcarea in bloom, specimens from different localities. (December 2021)

Aztekium ritteri juvenile plants, 2 years old. Almost dime-sized. (March 2020)

Mini-Show Succulent January 2022: Lithops, Conophytum

SOUTH COAST CACTUS AND SUCCULENT SOCIETY

Article Recommendation via Dave Hinch. Here's a snippet of the first paragraph (there are plenty of photos):

> Lithops are very simple plants. All you get are two leaves, each mostly filled with water holding cells. They are dormant when the weather is too hot or too cold, and grow most in the spring. On a fine level, no other genus has such a wealth of variation in color, shape, texture and pattern. (except maybe Conophytum) . . . (read more)

https://southcoastcss.org/mini-show-succulent-january-2022-lithops-conophytum/

Membership Renewal Information

Don't forget its renewal time! We need your renewal dues of $12.50 by Dec. 31 for the 2022 year. If you joined or renewed between September 2021-Present you are already covered for the 2022 year. There is a grace period and after that period you will be removed from our mailing list.

WE ARE NOW IN THE GRACE PERIOD.

Renew 1 of 2 ways:

Write **CHECKS** payable to MCSS. Please print on a sheet of paper your name, address, email address and phone number, and include that with your check. Mail to:

> MCSS TREASURY
> 37714 SIESTA
> HARRISON TOWNSHIP, MI 48045

Join via our **WEBSITE** (https://www.michigancactus.org/memberships) and pay via PayPal. We do not offer credit card payment at this time.

Growing Adeniums in Southern Arizona by Michael Chamberlan

MARICOPA COOPERATIVE EXTENSION/UNIVERSITY OF ARIZONA

Article Recommendation via Dave Hinch. There are some great tips here for avid Adenium growers:

> "The plants should be maintained so drainage from the pot is not blocked, which can happen when pots are placed on a hard surface. The pot can be elevated to keep an air gap between the bottom of the pot and the surface it is standing on. Pot-elevators or "feet" are available for this purpose. An air gap also discourages roots from growing out the bottom of the pot." . . . (read more)

This particular tip would likely apply to many other xeric plants.

-Dave

https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1953-2021.pdf

Eye Candy

PHOTOS AND CAPTIONS BY DAVE HINCH

This Ferocactus had three buds developing throughout the summer. The last two years it has bloomed in a south window shortly after bringing it indoors for the winter. I bought this about 10 years ago at a local nursery when it was about the size of a tennis ball. After several repottings it's now about the size of a soccer ball with 6" spines. I never water it when it's indoors so the next time it gets a drink is outdoors next May. (Photo from November)

Jatropha podagrica, Buddha's Belly, is a pachycaul plant from Central America. Matthaei has a nice specimen in their Arid House. Fairly easy to care for and seems to like fairly regular watering when it's in active growth. During the summer mine sits outside in full sun and rain. It has several blooming phases throughout the year. It even blooms indoors periodically during the winter in my south window.

This plant possesses both male and female flowers so it easily self seeds. The seed pods explode when ripe, so I've learned to bag the mature pods in cheese cloth to capture the seeds. Seed germination is much better with bottom heat and the fresher the seeds the better your success. One observation I have experienced that shouldn't alarm you is the rapid die back of leaves when moving these plants from an outdoor location to an indoor location and vice versa. Be patient, this plant as well as a few of my other pachycauls (ex. Adeniums, Pachypodiums) will sometimes shed their indoor or outdoor leaves and sprout new leaves geared to their new environment. In it's native locality they reportedly grow over 8 feet tall and get somewhat leggy so don't be afraid of cutting it back to achieve a fuller, more compact and attractive form of 24 to 30 inches. Since they are closely related to Euphorbias, use caution when pruning.

How Do Plants Freeze?

BY CAROL BAIRD (FROM AMATEUR'S DIGEST, MARCH 1993)

How *do* plants die in a freeze? It is the ice in the tissues of the plant that kills the living cells. Ice outside the cell draws water out of the cell; the cell can die from dehydration or from toxic accumulation. Ice inside the cell ruptures the membrane around the cell. But if that is true, why do som plants resist freezing while others succumb?

Only in the last decade or so have we become aware that for ice to form on or in plant tissues there must be ice nuclei present. This is simply where a microscopic bit of matter, called an *ice nucleator,* triggers the formation of an ice nuclear around which the ice will form. Potent ice nucleators, particularly certain bacteria, abound in plant tissues. A plant must adopt one of three strategies if it is to prevent freezing:

- It must get rid of 'sensitive' tissue
- It must get rid of water in 'sensitive' tissue
- It must get rid of ice nucleators in 'sensitive' tissue

Some cold adapted plants routinely drop their leaves in winter. Others have inherited a physiology that allows them to shift water out of their winter buds and woody vessels and still survive the resultant dehydration. All these cold adapted plants evolved at high elevation or high latitude and became retrofitted to seasonal cold by the process of natural selection.

All other plants must depend on acclimation to cold conditions. Some of our cycads, in the face of an Arctic blast, become deciduous. Other plants manage to turn off their xylem (woody tissue) flow as the mercury falls. We do not yet know if there are any species that have the option to remove ice nucleators.

But there is another dimension to all this talk about ice. Surprisingly, plant tissues do not necessarily freeze when the temperature falls to 32F. They can be supercooled. Supercooling occurs most readily if ice nucleators cannot enter the cells, or if there is relatively low water content in the tissues. But all of our plants have been severely drought-stressed; this perennial lack of water may in fact have helped to save the plants that survived the freeze. By having low water content in the tissues, they may have supercooled and avoided freezing, even though the air temperature was way below freezing. This process most likely occurred in tissues farthest away from the coldest air.

A further confounding factor is microclimate. In the garden a plant can face north or south, east or west. It can be in full sun most of the day or in the shadow of a building or a tree. It may be on an exposed slope or in a protected dale. When an Arctic air mass comes through, daytime temperatures rise above the freezing point. So plants exposed to full sun may have thawed only to refreeze that evening. And winds may have intensified the dehydration effect.

Mortality is a natural process ...

The above information should reinforce the fact that plants kept dry in winter may have a better chance to survive a freeze than plants that are wet.

As I type this, it's a nice sunny day outside. It might seem ridiculous to even think of plants freezing, much less consider ice (as in the above article.) Yes, the long-range forecast was for California to have a warmer than average winter—and, so far, the forecast has been spot-on. I've only covered my plants a couple of nights, so far. But I still have the plant covers ready to be deployed, just in case.

It also appears that we're in for an especially dry year. I'll be overjoyed to be proven wrong. But we need to be prepared for more than the usual watering restrictions this summer.

A number of my potted succulents have been out in the rain—what rain we've had, so far—and have borne well the low temperatures we've had. There is no noticeable damage yet evident, though time will tell. If we get morning temps forecast to be 35 or below, I will move some to more protected locations and cover others.

We can get complacent about plant hardiness sometimes. I recall one of our long-ago members who kept a big Sansevieria cylindrica on her covered porch all year. It went through a number of cold winters. She thought it was as tough as old boots. Then, one winter, without a fare-thee-well, it just rotted.

Plants can always surprise us.